

K-8 STEM Endorsement:

Program requirements.

- (1) Be the holder of a currently valid Iowa teacher's license the general elementary endorsement or the holder of a K-8 math (must take elementary science methods) or K-8 science endorsement (must take elementary math methods).**
- (2) Have completed at least 24 semester hours of coursework in at least two areas of science, technology, engineering and math (not including coursework in instructional/educational technology and with no more than 6 hours from science/math methods).**
- (3) A minimum of six semester hours of required coursework in the following:**
 - a. STEM Curriculum and Methods the content must include**
 - Comparing and Contrasting the nature and goals of each of the STEM disciplines
 - Promoting learning through purposeful, authentic, real world connections
 - Integration of content and context of all four areas
 - Interdisciplinary/trans-disciplinary approaches to teaching (including but not limited to problem-based learning and project based learning)
 - Engaging the subject-matter experts (including but not limited to: colleagues, parents, higher education faculty/students, business partners, and informal education agencies) in STEM experiences in and out of the classroom
 - Assessment of integrative learning approaches
 - b. STEM strategies- the content must include:**
 - Information Literacy Skills in STEM
 - Processes of Science/Scientific Inquiry
 - Engineering Design Process
 - Problem-solving models
 - Programming Logic
 - Communicating to a variety of audiences
 - c. STEM Experience** of a minimum of 30 hours that can be met by
 - completing a STEM research experience
 - participating in a STEM internship at a STEM business or informal education organization.
 - volunteering at a STEM extracurricular activity